PENGARUH KOPIGMENTASI KUERSETIN TERHADAP STABILITAS PANAS ANTOSIANIN DAUN MIANA (*C. scutellariodes L. Benth) Var.* CRISPA

COPIGMENTATION EFFECT OF QUERCETIN ON TEMPERATURE STABILITY OF ANTHOCYANIN EXTRACT OF (C. scutellariodes L. Benth) Var. CRISPA LEAVES

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ABSTRAK

Tujuan dari penelitian ini adalah menentukan kinetika degradasi antosianin terkopigmen kuersetin pada suhu pemanasan 40^0C, 50^0C, 60^0C, 70^0C. Kopigmentasi dilakukan dengan perbandingan molar (antosianin:kuersetin) 1:4, 1:8, dan 1:12. Hasil penelitian mengikuti orde 0 dengan perbandingan paling stabil 1:12. Nilai konstanta laju degradasi antosianin suhu pemanasan 40^0C-70^0C untuk kontrol $3{,}6x10^{-4}$-$21{,}2x10^{-4}$, pada perbandingan 1:4 berkisar pada $2{,}0x10^{-4}$-$14{,}2x10^{-4}$, 1:8 berkisar $1{,}9x10^{-4}$-$11{,}5x10^{-4}$, 1:12 berkisar $1{,}1x10^{-4}$-$10{,}2x10^{-4}$. Sedangkan nilai waktu paruh pada suhu pemanasan 40^0C-70^0C pada kontrol 2665,95-326,96 menit, perbandingan 1:4 berkisar 3465,74-491,59 menit, 1:8 berkisar 4620,98-602,74 menit, 1:12 berkisar 6301,34-679,56 menit. Untuk nilai energi aktivasi pada kontrol, 1:4, 1:8, 1:12 berturut-turut adalah 55,54 kJ/mol 60,78 kJ/mol, 56,33 kJ/mol, 65,88 kJ/mol.

Kata kunci : daun Coleus L Benth, kopigmentasi, kuersetin, stabilitas warna.

ABSTRACT

The aim of this research was to determine the stability of anthocyanin from Coleous L. Benth leaves extract copigmented with quercetin in several concentration at 40^0C, 50^0C, 60^0C,70^0C and molar concentration copigment were (anthocyanin:quercetin)1:4, 1:8, dan 1:12. The result followedby zeroth orde reaction with the most stable ratio 1:12. Anthocyanin degradation rate in temperature heating of 40^0C-70^0C showed for control $3.6x10^{-4}$-$21.2x10^{-4}$, at a ratio 1:4 ranged between $2.0x10^{-4}$ to $14.2x10^{-4}$, 1:8 ranged between $1.9x10^{-4}$ to $11.5x10^{-4}$, 1:12 ranged between $1.1x10^{-4}$ to $10.2x10^{-4}$. Value of the half-life at a temperature of 40^0C-70^0C showed for control ranged between 2665.95-326.96 minutes, at a ratio 1:4 ranged between 3465.74-491.59 minutes, 1:8 ranged between 4620.98-602.74 minutes, 1:12 ranged between 6301.34-679.56 minutes. Activation energy values on the control, 1: 4, 1: 8, 1:12 as follows 55.54 kJ/mol 60.78 kJ/mol, 56,33 kJ/mol, 65.88 kJ/mol respectively.

***Keywords** : Coleus L Benth leaves. colour stability. copigmentation. quercetin.*